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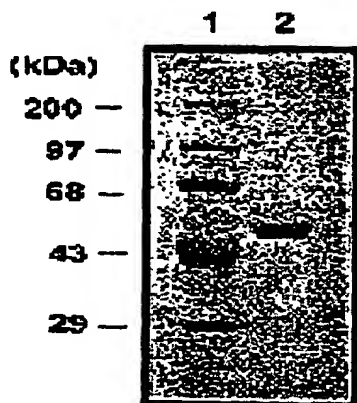
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(54) Title: **ENZYMATIC PRODUCTION OF DIFRUCTOSE DIANHYDRIDE IV FROM SUCROSE AND RELEVANT ENZYMES AND GENES CODING FOR THEM**

(57) Abstract: Disclosed is the production of difructose dianhydride IV from sugar. A sugar solution is subjected to reaction at room temperature or lower in an acidic buffer of pH 3.0-7.0 in the presence of a levansucrase derived from *Z. mobilis* to produce levan. The levansucrase is prepared by culturing *E. coli* BL21 (DE3)/pEL12 (KCTC 8661), harvesting and homogenizing the cells, and isolating levansucrase from the cell homogenate. Levan is purified from the reaction solution and subjected to reaction at 25-50 °C for 3-10 hours in an acidic buffer of pH 3.0-7.0 in the presence of a levan fructotransferase to produce difructose dianhydride IV. The levan fructotransferase is obtained from *E. coli* JUD81 (KCTC 0877BP). Also, disclosed are a gene coding for the levan fructotransferase and an expression vector pUDAF81 carrying the gene.

WO 01/29185 A1